

REMARKS

After entry of the instant Amendment, claims 5-10 and 17-19 remain pending in the instant application. Claims 1-4 and 11-16 are cancelled by this Amendment. Claim 17 is amended to correct a typographical error. Claim 19 is added to further define an additional embodiment of this invention. As described below, there is full support in the specification for the amendments to the claims. Accordingly, no new matter has been introduced.

Claim Rejections Under 35 U.S.C. §112:

Claims 12-14 and 17 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Claims 12-14 are cancelled by this Amendment. Thus, the 35 U.S.C. § 112 rejections of claims 12-14 are now moot and the Applicant respectfully requests their withdrawal.

Prior to the entry of this Amendment, claim 17 recited the limitation “initiator.” This typographical error has been corrected with this Amendment such that claim 17 now recites the correct limitation “inhibitor” as is used throughout the specification and claims. In view of this Amendment, the Applicant respectfully submits that the rejection of claim 17 is overcome and requests that the Examiner withdraw this rejection.

Claim Rejections Under 35 U.S.C. §102:

Claims 1, 2, 11, and 12 stand rejected under 35 U.S.C. §102(b) as being anticipated by JP 58-104970 and, in the alternative, by JP-58-103565. These claims are cancelled by this Amendment. Thus, the 35 U.S.C. § 102 rejections of these claims are now moot and the Applicant respectfully requests their withdrawal.

Claim Rejections Under 35 U.S.C. §103:

The Examiner rejects claims 3, 4, 14, and 15 under 35 U.S.C. §103(a) as being unpatentable over the ‘970 reference in view of JP-07-109501. The Examiner also rejects claim

16 under 35 U.S.C. §103(a) as being unpatentable over the '970 reference in view of the '501 reference and further in view of U.S. Pat. No. 6,361,716. All of these claims are cancelled by this Amendment. Thus, the 35 U.S.C. § 103 rejections of these claims are now moot and the Applicant respectfully requests their withdrawal.

The Examiner also rejects claims 5-10, 17, and 18 under 35 U.S.C. §103(a) as being unpatentable over the '716 patent as modified. The Examiner contends that the '716 patent teaches a curable silicone composition comprising two polysiloxanes, an electrically conductive filler (such as silver flakes), an amount of a hydroxy-functional compound (such as a phenolic oxidation inhibitor), and a catalytic amount of a hydrosilylation catalyst. The Examiner goes on and admits that the '716 patent does not explicitly teach that silver flakes are first treated with the phenolic oxidation inhibitor to yield surface modified silver flakes. However, the Examiner concludes that it is implicit that the phenolic oxidation inhibitor, present along with the two polysiloxanes, will interact with the silver flakes and thereby form a silver surface treated composition such as the one of the instant invention. The Applicant entirely disagrees with the Examiner's assessment of the '716 patent and respectfully asserts that the pending claims are both novel and non-obvious, even over the '716 patent as modified.

In the second paragraph on page 7 of the Office Action, the Examiner admits that the '716 patent does not teach that the silver flakes are treated with the phenolic oxidation inhibitor. In fact, even during mixing with the two polysiloxanes, the silver flakes could not be treated with the phenolic oxidation inhibitor because, as is well recognized by those of skill in the art, the presence of the two polysiloxanes would effectively impede the surface treatment of the silver flakes. In other words, simply mixing the two polysiloxanes, the silver flakes, and the phenolic

oxidation inhibitor would not surface treat the silver flakes with the phenolic oxidation inhibitor and does not form the instant invention.

To further define this invention and further distinguish it over the '716 patent, the Applicant has added claim 19 which requires that the silver-based powder be surface-treated with an oxidation inhibitor prior to introduction into the composition. Said differently, in this embodiment, the silver-based powder is surface treated apart from any silicones. Support for this amendment can be found at least in Example 1 in paragraphs [0047] and [0048] on page 15 of the specification as originally filed. The Applicant notes that this claim is merely added to further define an additional embodiment of this invention. In fact, the Applicant respectfully submits that this amendment makes it increasingly clear that the instant invention is both novel and non-obvious over the prior art. Accordingly, the Applicant respectfully requests that each of the §103 rejections be withdrawn and that all claims, including claim 19, be allowed.

Obviousness Standard:

As the Examiner is well aware, the question of obviousness is resolved on the basis of the *Graham* factors.¹ As set forth by the *KSR* court, and as clearly explained in *Ex parte* Hewett², the analysis of these factors follows a “functional approach” and must resolve “whether the improvement is more than the predictable use of prior art elements according to their established functions.”³ In this case, the Examiner has not shown or explained how the invention represents the predictable use of prior art elements.

¹ *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). See also *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. at 1734, 82 USPQ2d at 1391

² The Applicant acknowledges that this case is not precedential. However, this does not mean that the statement of the law, especially hindsight, cannot be considered by the Examiner and/or the Board. See Appeal 2006-2827; App. No. 09/883,893

³ See *KSR*, 127 S.Ct. at 1742, 82 USPQ2d at 1396.

No Predictable Use of Prior Art Elements:

In rejecting the pending claims as obvious, the Examiner has not shown or explained how the invention represents the predictable use of the prior art elements. Relative to independent claim 5, it is not predictable to form a composition comprising a curable silicone composition and a silver-based powder surface-treated with an oxidation inhibitor. Said differently, and as recognized by those of skill in the art, if the silver flakes and the oxidation inhibitor are mixed in the silicone composition of the '716 patent, the silver flakes could not be sufficiently surface treated and most certainly could not be done so in a predictable or obvious manner. In fact, the two polysiloxanes of the '716 patent would interfere with any surface coating of the silver flakes and would decrease the usefulness of any composition that is formed.

The silver flakes of the '716 patent are electrically conductive. However, as is known by those of skill in the art, the surfaces of these silver flakes normally include residual lubricants used in the manufacturing process, such as higher fatty acids, metal soaps, higher aliphatic alcohols or their esters, higher aliphatic amines, higher aliphatic amides, polyethylene waxes, etc. The presence of these residual lubricants significantly impairs curability of curable silicone compositions during storage and some time later may lead to complete loss of curability.

The Applicant points this out to the Examiner because, in the '716 patent in col. 4, lines 37-45 and col. 5, lines 15-28, the patentees explicitly describe manufacturing processes using lubricants such as fatty acids and fatty acid esters. To go further, the patentees state, in col. 4, lines 43-45, that "[e]ven when the flakes are washed with a solvent after milling, some lubricant may remain chemisorbed on the surface of the metal." This means that the silver flakes of the '716 patent are likely the kind that impair curability of curable silicone compositions during storage and that may lead to complete loss of curability. In fact, the instant invention was

designed to overcome the disadvantages of using fillers having residual amounts of lubricants on their surfaces. Thus, if it were obvious to surface coat these silver flakes with an oxidation inhibitor, one of skill in the art would expect such a process to be taught in the '716 patent.

However, the patentees of the '716 patent do not disclose such a process. In fact, the patentees teach totally opposite processes. In one embodiment, the patentees disclose that the silver flakes may not be surface treated at all. In another embodiment, the patentees disclose that the silver flakes may be surface treated with at least one organosilicon compound. It is critical to note that the patentees do not disclose, teach, or suggest (1) surface treatment of silver flakes with an oxidation inhibitor, (2) surface treatment of silver flakes with a phenol-based compound, hindered phenol-based compound, or triazole-based compound (even though the composition includes a phenolic oxidation inhibitor) and/or (3) surface treatment of silver flakes with either an oxidation inhibitor in general, or a specific oxidation inhibitor, prior to inclusion in a silicone composition. The reasons for these omissions are clear.

(1) The '716 patent does not disclose, teach, or suggest surface treatment of silver flakes with an oxidation inhibitor because it is not obvious and not predictable to do so. In fact, the patentees of the '716 patent teach the opposite. The patentees teach either not surface treating the silver flakes at all or, in the alternative, surface treating the flakes with an *organosilicon* compound (see col. 4, lines 46-52) that is not an oxidation inhibitor. Either way, the patentees' own words show that it would not be obvious to form the instant invention and surface treat silver flakes with oxidation inhibitors.

(2) The '716 patent also does not disclose, teach, or suggest surface treatment of silver flakes with a phenol-based compound, hindered phenol-based

compound, or triazole-based compound because the patentees instead focus on surface treatment using *organosilicon* compounds (see col. 4, lines 46-52). Use of the *organosilicon* compounds does not provide the same benefits as the instant invention. Further, *organosilicon* compounds are not chemically or physically equivalent to the phenol-based compounds, hindered phenol-based compounds, or triazole-based compounds of this invention. Thus, this also shows how it would not be obvious to form the instant invention.

(3) Further, and as recognized by those of skill in the art, simply mixing two polysiloxanes with the silver flakes and an oxidation inhibitor would not provide a sufficient surface coating on the silver flakes and would not form the instant composition. In fact, using the two polysiloxanes in the '716 would interfere with any surface coating of the silver flakes and would decrease the usefulness of any composition that is formed.

In view of the above explanations, and further in view of the description of the '716 patent itself, it is clear that it would not be at all obvious or predictable to form the instant curable silicone composition including a silver-based powder that is surface coated with an oxidation inhibitor. In other words, no one of skill in the art would ever form this composition based on the prior art, including the '716 patent as modified.

Moreover, the patentees of the '716 patent, as those of skill in the art, had a chance to discover and/or disclose, teach, or suggest surface treating silver-based powders with oxidation inhibitors and failed to do so. In fact, the patentees did more than just omit such a teaching. They explicitly taught the opposite by either not surface coating silver flakes at all or doing so with completely different compounds. This is especially relevant to a determination of obviousness

because the patentees disclose use of a compound that could act as a phenolic oxidation inhibitor in their composition but not for surface treating the silver flakes. If the patentees at all contemplated surface coating the silver flakes with oxidation inhibitors, or more specifically with phenol-based oxidation inhibitors, they surely would have disclosed such a finding and taught its use. Yet, they did not do so and instead taught the opposite. Therefore, it is clear that those of skill in the art did not then, and would not now, predictably or obviously form the composition of the instant invention. Accordingly, the Applicant respectfully submits that these rejections are overcome and requests that they be withdrawn.

There is No Teaching, Suggestion, or Motivation to Modify the '716 Patent:

Aside from any predictability related arguments, and even though a teaching, suggestion, or motivation to modify the '716 patent is not *per se* required to prove obviousness post *KSR*, it is worthy to note that there is absolutely no teaching, suggestion, or motivation to modify the '716 patent to form the instant curable silicone composition. To use this type of rationale, the Examiner must show that there is *desirability* in the art to modify the '716 patent and pick the exact components, as claimed, from this modified reference. (See MPEP §2141) The Applicant respectfully submits that this desirability does not exist. As set forth above, the '716 patent focuses on either not surface coating silver flakes or surface coating silver flakes using organosilicon compounds. This is not at all congruous with the instant invention. As described above, this fact is especially relevant to a determination of obviousness because the patentees of the '716 patent included a compound that could act as a phenolic oxidation inhibitor in their composition but did not use it for surface coating the silver flakes. If they at all contemplated surface coating the silver flakes with oxidation inhibitors or phenol-based oxidation inhibitors, they surely would have disclosed such a finding and taught its use. Therefore, the Applicant

respectfully asserts that not only is it not predictable to form the instant composition, but also that there is absolutely no teaching, suggestion, or motivation to modify the '716 patent to form this invention. Quite simply, this invention is both novel and non-obvious over the prior art. Accordingly, the Applicant requests that the Examiner withdraw all pending §103 rejections and allow the claims.

Conclusion

In view of the aforementioned arguments and amendments, the Applicant respectfully submits that all pending rejections are either moot or overcome. The Applicant also submits that the amended claim and newly added claim are both novel and non-obvious. Therefore, each of the claims is in condition for allowance. Accordingly, the Applicant respectfully requests such allowance.

Respectfully submitted,

HOWARD & HOWARD ATTORNEYS

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/David M. LaPrairie/
David M. LaPrairie, Registration No. 46,295
Howard and Howard Attorneys, P.C.
The Pinehurst Office Center, Suite 101
39400 Woodward Ave.
Bloomfield Hills, MI 48304-5151
(248) 723-0442